

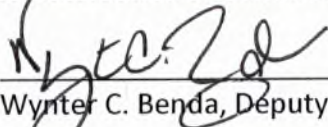


To the Honorable Council
City of Norfolk, Virginia

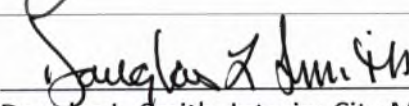
December 20, 2016

From: George M. Homewood, FAICP, CFM, Planning Director

Subject: **Amendment to *plaNorfolk2030* and the *Zoning Ordinance* to adopt the new Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) and to adopt the new flood zone boundaries effective February 17, 2017**

Reviewed: 
Wynter C. Benda, Deputy City Manager

Ward/Superward: Citywide

Approved: 
Douglas L. Smith, Interim City Manager

Item Number:

PH-2

I. **Staff Recommendation: Approval**

II. **Commission Action: By a vote of 7 to 0 the Planning Commission recommends **Approval****

III. **Requests:**

- The proposal is to adopt the new Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Maps ("FIRM") and Flood Insurance Study ("FIS") in the *Zoning Ordinance* and *plaNorfolk2030*.
- The effective date of the FIRM and FIS is February 17, 2017.

IV. **Applicant: City Planning Commission**

V. **Description:**

- The City received the Preliminary FIRM from FEMA in August 2014
- City staff and the City's engineering consultant Moffat & Nichol found discrepancies in the FIRM during the initial review and provided additional information to assure the maps' correctness
- The FIRM introduces the AO and Coastal A flood zones into the City's Special Flood Hazard Areas
- A zoning map amendment is required due to the FIRM being a zoning overlay on the official Zoning Map
- Adoption of the new FIS and FIRM is required by FEMA to remain within the National Flood Insurance Program (NFIP)
 - FEMA established an effective date for this FIRM of February 17, 2017 by which time the City must enforce
 - Early adoption with a delayed effective date will reduce potential surprises for new development proposals

Structures located within Special Flood Hazard Area (City GIS)		
Flood Zone	2014	2017
VE	30	85
AE	8238	7580
AH	14	14
AO	N/A	25
LiMWA (Coastal A)	N/A	133

VI. Historic Resources Impacts

Any structures now located within the Special Flood Hazard Areas will be required to comply with the applicable floodplain regulations.

VII. Public Schools Impacts

N/A

Staff point of contact: Robert Tajan at 664-4756, Robert.Tajan@norfolk.gov

Attachments:

- Proponents and Opponents
- Staff Report to CPC dated November 10, 2016 with attachments
- Ordinances

Planning Commission Public Hearing: November 10, 2016

Executive Secretary: George M. Homewood, FAICP, CFM *GH*

Planner: Robert J. Tajan, AICP, CFM *RJT*

Staff Report	Item Number: 1	
Address	City Wide	
Applicant	City Planning Commission	
Requests	General Plan Amendment	Amend <i>plaNorfolk2030</i> , to incorporate the Flood Insurance Rate Map (FIRM) dated February 17, 2017
	Rezoning	Amend district boundaries of the Floodplain/Coastal Hazard Overlay (FPCHO) District as well as to adopt new district boundaries for the Coastal A FPCHO zoning district; effective date February 17, 2017
	Text Amendment	Amend section 11-3, "Floodplain/Coastal Hazard Overlay Districts (FPCHO)," of the City's <i>Zoning Ordinance</i> , to update the City's floodplain regulations in order to adopt the new Flood Insurance Study (FIS), effective date February 17, 2017 and make technical corrections

A. Summary of Request

- The proposal is to adopt the new FEMA Flood Insurance Rate Maps (FIRM) and Flood Insurance Study (FIS) in the *Zoning Ordinance* and *plaNorfolk2030*.
- The effective date of the FIRM and FIS is February 17, 2017.

B. Plan Consistency

Plan Amendment

- The Promoting Environmental Sustainability chapter of *plaNorfolk2030* incorporates the current FIRM.
- This amendment will replace the current FIRM in *plaNorfolk2030* to the new FIRM dated February 17, 2017.

Change of Zoning and Text Amendment

- The Promoting Environmental Sustainability chapter of *plaNorfolk2030* includes an action calling for the City to improve its Community Rating System (CRS) score.
 - Adopting the updated flood insurance map will assist in improving the City's score, making the proposed text amendment consistent with *plaNorfolk2030*.

C. Zoning Analysis

- The City received the Preliminary FIRM from FEMA in August 2014.

- City staff and the City's engineering consultant Moffat & Nichol found discrepancies in the FIRM during the initial review and provided additional information to assure the maps' correctness.
 - Discrepancies relayed to FEMA included the location of corporate boundaries of the City and improperly named streets.
- The City also identified several discrepancies in the technical data concerning how certain flood zone boundaries were identified on the FIRM.
- FEMA reviewed and accepted the proposed changes on May 11, 2016; the resulting FIRM is the most detailed and accurate flood map possible for the City.
- The FIRM introduces the AO and Coastal A flood zones into the City's Special Flood Hazard Areas.
 - The new Coastal A zone identifies areas within the AE zone where moderate wave action, defined as having waves of one and a half (1.5) to three (3) feet, can be expected during 1% annual probability flooding events; this is designated by a new map component, the Limit of Moderate Wave Action (LiMWA) depicted as a line on the FIRM.
 - Section 11-3 of the *Zoning Ordinance* already contains development regulations regarding the Coastal A flood zone.
 - Development regulations regarding the AO flood zone are proposed to clarify the zoning and construction standards that apply to structures located within this area.
 - The AO zones deal with depths of flooding due to ponding rather than giving an elevation, where flood levels are anticipated during a 1% annual chance storm event.
- The proposed FIRM now contains Base Flood Elevations and Flood Depths in whole numbers.
- The number of structures affected by the Special Flood Hazard Areas has decreased.

Structures located within Special Flood Hazard Area (City GIS)		
Flood Zone	2014	2017
VE	30	85
AE	8238	7580
AH	14	14
AO	N/A	25
LiMWA (Coastal A)	N/A	133

- A zoning map amendment is required due to the FIRM being a zoning overlay on the official Zoning Map.
- Adoption of the new FIS and FIRM is required by FEMA to remain within the National Flood Insurance Program (NFIP)
 - FEMA established an effective date for this FIRM of February 17, 2017 by which time the City must enforce.
 - Early adoption with a delayed effective date will reduce potential surprises for new development proposals.

D. Transportation Impacts

N/A

E. Historic Resources Impacts

Any structures now located within the Special Flood Hazard Areas will be required to comply with the applicable floodplain regulations.

F. Economic Impacts

- The City currently participates in the CRS program which provides a 5% discount on flood insurance premiums based on measures the City takes in reducing flood risk.
 - Higher development standards, including adopting the Coastal A zone, help to increase this discount.
- Staff has applied to increase the discount to 15% for flood insurance policies in the Special Flood Hazard Areas.
 - Application will be made to increase the discount to 20% due to the adoption of the Coastal A zone within the Special Flood Hazard Areas.

G. Public Schools Impacts

N/A

H. Environmental Impacts

- The new maps more accurately reflect the historical and future flood potential within the City.
- Under the new FIRM new construction in the Special Flood Hazard Areas will be built to be more resilient to flooding once the maps become effective.

I. AICUZ Impacts

N/A

J. Surrounding Area/Site Impacts

N/A

K. Payment of Taxes

N/A

L. Civic League

- Postcards were mailed to all property owners affected by the changes in September 2014 and October 2016.
- Meetings have been scheduled with multiple civic leagues to explain the map adoption process as well as concerns about appealing the maps on an individual parcel basis.

M. Communication Outreach/Notification

- Postcards notifying property owners of the proposed changes as well as the date and time of the City Planning Commission public hearing were mailed on October 2016.
- Eight public meetings were held between September 2014 and October 2016.
- Public meetings involving representatives from FEMA and the State were held at the SCOPE on November 19, 2014 and at Crossroads Elementary School on October 17, 2016.
- Legal notification was placed in *The Virginian-Pilot* on October 27 and November 3.

N. Recommendation

Staff recommends **approval** of the General Plan Amendment, Rezoning and, Text Amendment to adopt the Flood Insurance Rate Map and Flood Insurance Study with the effective date of February 17, 2017.

Attachments

Proposed Text
General Plan FIRM Amendment
Letter from FEMA

Proponents and Opponents


Proponents

Robert Brown
304 Meadow Creek Drive
Chesapeake, VA 23323

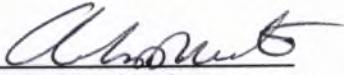
Opponents

None

11/09/2016 lds

Form and Correctness Approved: 

Contents Approved: 

By 
Office of the City Attorney

By 
DEPT.

NORFOLK, VIRGINIA

ORDINANCE No.

AN ORDINANCE TO AMEND THE CITY'S GENERAL PLAN,
PLANORFOLK2030, SO AS TO UPDATE THE "FEMA FLOOD
INSURANCE RATE MAP."

- - -

BE IT ORDAINED by the Council of the City of Norfolk:

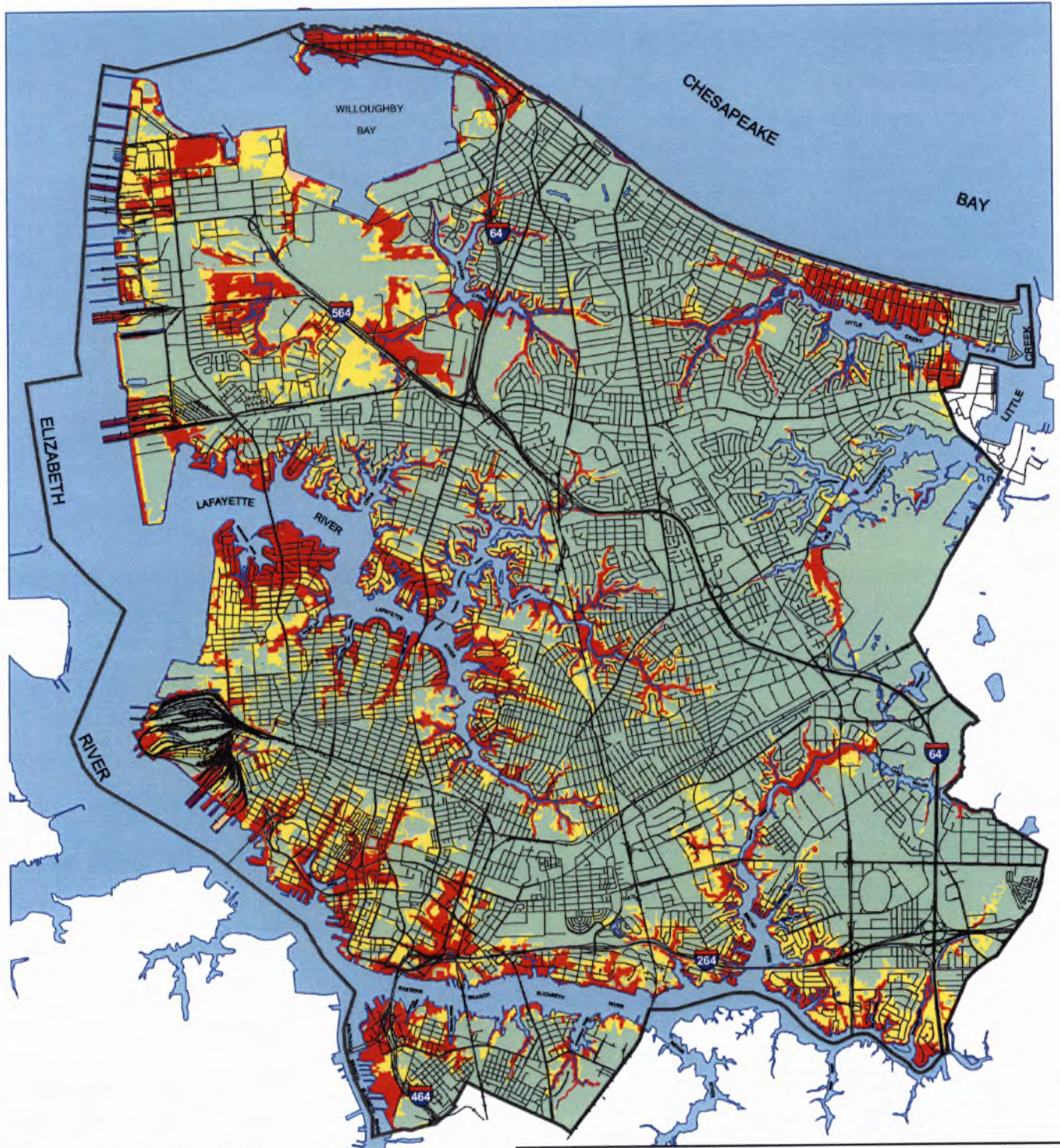
Section 1: That the general plan of Norfolk, plaNorfolk2030, shall be amended so as to update the "FEMA Flood Insurance Rate Map," identified as Map ES-1 in the plan, by amending and replacing the map with the new map shown in "Exhibit A," attached hereto.

Section 2:- The Council hereby finds that this amendment to the general plan is required by public necessity, convenience, general welfare, or good zoning practice.

Section 3:- That this ordinance shall be effective on and after February 17, 2017.

ATTACHMENT:
Exhibit A (1 page)

Exhibit A




Effective February 17, 2017



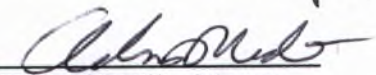
Legend

- VE (wave action)
- AE (1% annual chance flood hazard)
- AH (1% annual chance shallow flooding - ponding)
- AO (1% annual chance shallow flooding - sheet flow on sloping terrain)
- 0.2% annual chance flood hazard
- X (outside of 0.2% annual change hazard)
- Area not mapped

11/09/2016 lds

Form and Correctness Approved: 

Contents Approved: 

By 
Office of the City Attorney

By 
DEPT.

NORFOLK, VIRGINIA

ORDINANCE No.

AN ORDINANCE TO APPLY THE FLOODPLAIN/COASTAL HAZARD OVERLAY DISTRICTS (FPCHO) TO PROPERTIES SHOWN ON THE FLOOD INSURANCE RATE MAP (FIRM) PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) DATED FEBRUARY 17, 2017.

- - -

BE IT ORDAINED by the Council of the City of Norfolk:

Section 1:- That all those properties and portions of properties shown on the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA) dated February 17, 2017, which has been provided to the City in digital format, a printed copy of which is attached marked as "Exhibit A" attached hereto, are hereby included in each of the floodplain and coastal hazard areas and zones as set forth on said FIRM.

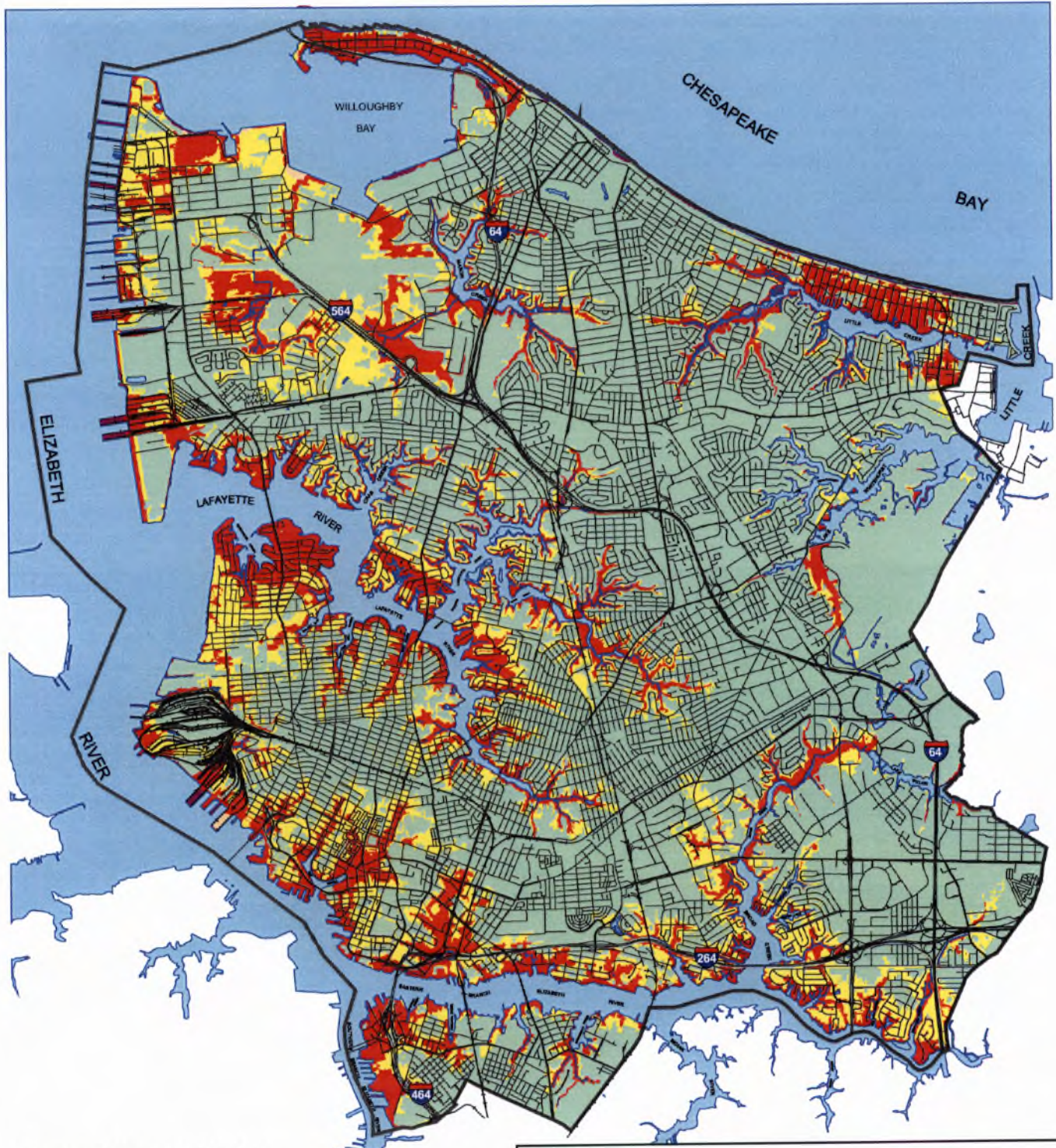
Section 2:- That the official Zoning Map for the City of Norfolk is hereby amended and reordained so as to reflect this zoning.

Section 3:- The Council hereby finds that this zoning amendment is required by public necessity, convenience, general welfare, or good zoning practice.

Section 4:- That this ordinance shall be effective on and after February 17, 2017.

ATTACHMENT:
Exhibit A (1 page)

Exhibit A



Effective February 17, 2017



Legend

- VE (wave action)
- AE (1% annual chance flood hazard)
- AH (1% annual chance shallow flooding - ponding)
- AO (1% annual chance shallow flooding - sheet flow on sloping terrain)
- 0.2% annual chance flood hazard
- X (outside of 0.2% annual change hazard)
- Area not mapped

Form and Correctness Approved: *RAP*

By *[Signature]*
Office of the City Attorney

Contents Approved: *Rm*

By *[Signature]*
DEPT.

NORFOLK, VIRGINIA

ORDINANCE No.

AN ORDINANCE TO AMEND AND REORDAIN SECTION 11-3 THE ZONING ORDINANCE OF THE CITY OF NORFOLK, 1992, SO AS TO UPDATE THE FLOODPLAIN/COASTAL HAZARD OVERLAY DISTRICTS (FPCHO) AND ADOPT A FLOOD INSURANCE RATE MAP CITYWIDE.

- - -

BE IT ORDAINED by the Council of the City of Norfolk:

Section 1:- That section 11-3 of the Code the Zoning Ordinance of the City of Norfolk, 1992 (as amended), entitled "Floodplain/Coastal Hazard Overlay Districts (FPCHO)", is hereby amended and reordained to update the Floodplain/Coastal Hazard Overlay Districts (FPCHO) so as to incorporate a revised Flood Insurance Rate Map (FIRM) for the city and to make technical adjustments to maintain consistency with zones shown on the updated FIRM. The text shall read as forth in "Exhibit A," attached hereto.

Section 2:- The Council hereby finds that this zoning amendment is required by public necessity, convenience, general welfare, or good zoning practice.

Section 3:- That this ordinance shall be effective on and after February 17, 2017.

ATTACHMENT:
Exhibit A (13 pages)

EXHIBIT A

11-3 - Floodplain/Coastal Hazard Overlay Districts FPCHO.

11-3.1 *Purpose.*

- (a) *Intent.* It is the intent of these regulations to permit the creation of Floodplain, Coastal Floodplain and Coastal High Hazard Districts in areas designated by the Federal Emergency Management Agency (FEMA) as "special flood hazard areas" and other areas identified as likely to benefit from floodplain management. Regulations within such districts are intended to prevent the loss of property and life, the creation of health and safety hazards, the disruption of commerce and governmental services, the extraordinary and unnecessary expenditure of public funds for flood protection and relief, and the impairment of the tax base, all of which adversely affect the public health, safety, and general welfare. These flood losses are attributed to the cumulative effect of obstructions located in areas of special flood hazard, and the occupancy of areas of special flood hazard by uses and structures vulnerable to flood damage or structures inadequately elevated, anchored or flood-proofed.
- (b) *Scope of regulations.* To accomplish these purposes, it is necessary to:
 - (1) Regulate uses, activities and development which, acting alone or in combination with other existing or future uses, activities and development, will cause unacceptable increases in flood heights, velocities and frequencies.
 - (2) Restrict or prohibit certain uses, activities and development from locating within certain areas of special flood hazards.
 - (3) Require all those uses, activities and development that do occur in areas of special flood hazards to be protected and/or flood-proofed against flooding, flood damage and wind damage.
 - (4) Protect individuals from buying lands and structures which are unsuited for certain purposes because of flood hazards.
 - (5) To ensure that adequate drainage is provided to reduce exposure to flood hazards.
- (c) *Findings.* The degree of flood protection sought by the provisions of this overlay district is considered reasonable for regulatory purposes and is based on acceptable engineering methods of study. Larger floods may occur. Flood heights may be increased by man-made or natural causes. This overlay district does not imply that districts outside the floodplain district or that land uses permitted within such district will be free from flooding or flood damages.

11-3.2 *Applicability.* The boundaries of the "special flood hazard areas" and "other flood areas" shall be designated by the "Flood Insurance Study" (FIS) issued by FEMA and shown on the city's Flood Insurance Rate Map (FIRM) dated February 17, 2017, as amended. This map, as amended, is declared to be part of this ordinance and shall be kept on file in the offices of the building official and of the zoning administrator. The components of the "special flood hazard areas" and "other flood areas" shall be:

- (a) Coastal High Hazard District (VE).
- (b) Coastal Floodplain District (Coastal A).
- (c) Floodplain District (AE, AH and AO).
- (d) Other Flood Areas (X 0.2% annual chance of flood).

11-3.3 *Compliance and Liability.*

- (a) *General.* No land shall hereafter be developed and no structure shall be located, relocated, constructed, reconstructed, enlarged, structurally altered or structurally improved nor any manufacture home placed on a lot or approved for utility service except in full compliance with the terms and provisions of this section and any other applicable ordinances and regulations.

Any development which alters or relocates a watercourse shall not diminish the flood-carrying capacity within the altered or relocated portion of the watercourse. Prior notification of any proposed development which would alter or relocate a watercourse in the City of Norfolk shall be provided to all affected, adjacent municipalities, the Federal Insurance Administration, and the Virginia Department of Conservation and Recreation or other state coordinating agency designated to assist with the National Flood Insurance Program.

No new construction or development shall cause an increase in the elevation of the water level of a one-hundred-year flood. It shall be the responsibility of the design professional and developer to demonstrate that a proposed development will not increase flood levels.

- (b) *Administration.* For purposes of this overlay district, any powers, duties, and responsibilities of the zoning administrator that are described herein may also be exercised or discharged by any employee of the department of planning who is designated as the floodplain manager and is certified under the standards established by the Association of State Floodplain Managers.
- (c) *Recordkeeping.* Records of actions associated with administering this overlay district shall be kept on file and maintained by the zoning administrator or his designee. This shall specifically include maintaining copies of elevation certificates.
- (d) *No liability created.* This section shall not create liability on the part of the City of Norfolk or any officer or employee thereof for any flood damages that result from reliance on this overlay district or any administrative decision lawfully made there under.
- (e) *Notification.* No later than six (6) months after the receipt of information that may alter flood elevations, a community shall notify the Federal Emergency Management Agency of the changes by submitting technical or scientific data to allow FEMA to properly assess risk premium rates and floodplain management requirements.

11-3.4 *Abrogation and greater restrictions.* The special flood hazard areas and other flood areas as described above shall be overlays to the existing underlying districts as shown on the official zoning map, and as such, the provisions set forth in these floodplain regulations shall operate in conjunction with the underlying district provisions, as set forth in section 11-0. If there is any conflict between the provisions or requirements of this overlay district and those of any underlying district, the more restrictive provisions shall apply.

11-3.5 *Severability.* If any section, subsection, paragraph, sentence, clause, or phrase of this overlay district shall be declared invalid for any reason whatever, such decision shall not affect the remaining portions of this overlay district. The remaining portions shall remain in full force and effect; and for this purpose, the provisions of this overlay district are hereby declared to be severable.

11-3.6 *Penalty for violations.* Any person who fails to comply with any of the requirements or provisions of this article or directions of the zoning administrator or his designee shall be guilty of a misdemeanor and subject to the penalties therefore.

In addition to the above penalties, all other actions are hereby reserved, including an action in equity for the proper enforcement of this article. The imposition of a fine or penalty for any violation of, or noncompliance with, this article shall not excuse the violation or noncompliance or permit it to continue; and all such persons shall be required to correct or remedy such violations or noncompliances within a reasonable time. Flood insurance may be withheld from structures constructed in violation of this article.

11-3.7 *Definitions.* For the purpose of these floodplain regulations, the following definitions shall apply:

Base flood: The flood having a one percent chance of being equaled or exceeded in any given year.

Base flood elevation (BFE): The elevation in feet of the one percent (1%) annual chance flood level, as shown in the FIS and FIRM.

Basement: Any area of a building having its floor sub-grade (below ground level) on all sides.

Breakaway wall: A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

Coastal Floodplain District: Those areas identified as Coastal A Zones that have been delineated as being subject to wave heights between one and one-half (1.5) feet and three (3) feet and identified on the FIRM as areas of Limits of Moderate Wave Action (LiMWA).

Coastal High Hazard District: Those areas identified as VE Zones on the FIRM extending from offshore to the inland limit of the Coastal Primary Sand Dune, as defined by state law (Code of Virginia Title 28.2), and subject to wave heights of three (3) feet or more.

Damage, severe repetitive loss: Flood related damages to a structure sustained on two (2) separate occasions during a ten (10) year period for which the cost of repairs at the time of each flood event, on the average, equals or exceeds twenty-five percent (25%) of the market value of the structure before the most recent damage occurred.

Damage, substantial. Damage, of any origin, sustained by a structure for which the cost of restoring the structure to its condition before the damage occurred would equal or exceed fifty percent (50%) of the market value of the structure before the damage occurred.

Design flood elevation (DFE): The BFE plus the freeboard required by this ordinance in the VE, Coastal A, AE and AH zones.

Design flood elevation AO (DFE-AO): The flood depth plus the freeboard required by this ordinance in the AO zone.

Development: Any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

Elevation certificate: A document, prepared by a professional land surveyor, engineer, or architect, on a form approved by FEMA that verifies elevation and floodplain data of a structure relative to the ground level.

Encroachment: The advance or infringements of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.

Flood or flooding:

- (a) A general or temporary condition of partial or complete inundation of normally dry land areas from either of the following:
 - (1) The overflow of inland or tidal waters; or
 - (2) The unusual and rapid accumulation or runoff of surface waters from any source.

- (b) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in subparagraph (a)(1) of this definition.
- (c) Mudflows which are proximately caused by flooding as defined in subparagraph (a)(2) of this definition and are akin to a river of liquid and flowing mud on the surface of normally dry land areas, as when earth is carried by a current of water and disposed along the path of the current.

Flood depth: The depth in feet of the one percent (1%) annual chance flood level, as shown in the FIS and FIRM. Applicable only to the AO zone.

Floodplain or flood-prone area: Any land area susceptible to being inundated by water from any source

Floodplain District: Those areas designated as AE, AH, and AO Zones on the FIRM for which a one percent (1%) annual chance of flood elevations have been identified.

Flood Insurance Rate Map (FIRM): The official map on which FEMA has delineated both the special flood hazard areas and other flood areas within the city. The FIRM may be available digitally.

Freeboard: The vertical distance between the BFE or depth number and the local minimum required lowest elevation in the AE, AH, AO, VE, and Coastal A Zones that provides additional protection for the unknown or unquantified factors that could contribute to greater flood heights.

Historic structure: Any structure that is:

- (a) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (b) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; or
- (c) Individually listed on the Virginia Landmarks Register.
- (d) Designated individually as a landmark or as a contributing structure within a locally designated historic district, to the extent such designation is permitted under and done in accordance with provisions of Chapter 9 or this ordinance.

Lowest floor: The lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or limited storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of Federal Code 44 CFR § 60.3.

Manufactured home: A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term manufactured home also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than one hundred eighty (180) consecutive days.

Manufactured home park or subdivision: A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

New construction: Structures for which the "start of construction" commenced on or after August 1, 1979.

Other flood areas: Those areas identified as X on the FIRM for which there is a one-fifth percent (0.2%) annual chance of flooding.

Recreational vehicle: A vehicle which is:

- (a) Built on a single chassis;
- (b) Measures four hundred (400) square feet or less when measured at the largest horizontal projection;
- (c) Designed to be self-propelled or permanently towed by a light duty truck; and
- (d) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational camping, travel, or seasonal use.

Repetitive loss damage: See "Damage, repetitive loss."

Shallow flooding area: A special flood hazard area with base flood depths from one (1) to three (3) feet where a clearly defined channel does not exist. Such flooding is characterized by ponding or sheet flow.

Special flood hazard areas: The land in the floodplain subject to a one percent (1%) or greater annual chance of being flooded. These are designated as AE, AH, AO, VE, and Coastal A on the FIRM.

Start of construction: The date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, substantial improvement or other improvement was within one hundred eighty (180) days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation on the property of accessory structures, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of the construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Substantial damage: See "Damage, substantial."

Substantial improvement: All reconstructions, rehabilitations, additions, or other improvements of a structure the cost of which equals or exceeds fifty percent (50%) of the market value of the structure before the "start of construction" of the improvement.

Notwithstanding the above, the term does not include any of the following:

- (a) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions;
- (b) Any alteration of a "historic structure" provided that the alteration will not preclude the structure's continued designation as a "historic structure"; or
- (c) Any improvements associated solely with elevating a structure above the DFE or DFE-AO.

Watercourse: A lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

11-3.8 *District boundary changes.* The delineation of any of the special flood hazard areas and other flood hazard areas may be revised by the City of Norfolk where natural or man-made changes have occurred and/or where more detailed studies have been conducted or undertaken by the U.S. Army Corps of Engineers or other qualified agency, or an individual documents the need for such change. However, prior to any such change, approval must be obtained from FEMA.

11-3.9 *Permit and application requirements.* All uses, activities, and development occurring within any floodplain district shall be undertaken only upon the issuance of a permit. Such development shall be undertaken only in strict compliance with the provisions of this ordinance, the Virginia Uniform Statewide Building Code, and all other applicable codes and ordinances. Prior to the issuance of any such permit, the zoning administrator or his designee shall review permits to assure sites are reasonably safe from flooding and require all applicants to demonstrate compliance with all applicable state and federal laws. It shall be the responsibility of a property owner to demonstrate that work proposed on existing structures does or does not constitute substantial improvement or repair of substantial damage. Under no circumstances shall any use, activity, and/or development adversely affect the capacity of the channels or floodways of any watercourse, drainage ditch, or any other drainage facility or system.

All applications for development within any special flood hazard area and all building permits issued for the floodplain shall incorporate the following information.

- (a) For any rehabilitation, installation of new electrical or mechanical systems, or any structural repair with an estimated cost that is less than fifty percent (50%) of the market value of the structure, a current elevation certificate sealed by a licensed design professional is required.
- (b) For any addition, any conversion of any non-habitable space to habitable space, or the construction or installation of a new accessory structure that requires a building permit:
 - (1) A current elevation certificate sealed by a licensed design professional, and
 - (2) A physical survey, performed after the effective date of the FIRM that,
 - (i) Accurately depicts current improvements on the property,
 - (ii) Provides a flood zone determination and the BFE or flood depth at the site, and
 - (iii) Delineates the location of the flood zones on the property.
- (c) For new construction and any substantial improvement of a principal structure:
 - (1) A proposed site plan sealed by a design professional that provides:
 - (i) Topographic data;
 - (ii) Proposed grades, grading and stormwater management;
 - (iii) All proposed structures and improvements;
 - (iv) Proposed finished floor elevations of structures in AE, AH, and AO zones;
 - (v) The elevation of the bottom of the lowest horizontal structural member of the lowest floor in VE and Coastal A zones;
 - (vi) Flood zone determination and BFE or flood depth with the FIRM reference, and
 - (vii) All other information as required by any applicable provision of Chapter 26, "Site Plan Review" or Section 11-2, "Chesapeake Bay Preservation Area Overlay District."

- (2) An elevation certificate based on the proposed development showing compliance with these floodplain regulations.
- (3) For non-residential structures proposed to be flood-proofed, a flood-proofing certificate based on the proposed development showing compliance with these floodplain regulations.
- (d) Any additional information deemed by the zoning administrator to be necessary to perform the required review.

11-3.10 *General Standards.* In the Floodplain, Coastal Floodplain and Coastal High Hazard districts the following provisions shall apply:

- (a) The Freeboard shall be three (3) feet.
- (b) Any new construction or substantial improvement to principal residential structures shall be a set back a minimum of twenty (20) feet from mean high water.
- (c) For residential construction, the lowest floor shall not be below grade on all sides.
- (d) New construction and substantial improvements shall be built in accordance with the Virginia Uniform Statewide Building Code, and anchored to prevent flotation, collapse or lateral movement of the structure and all portions at or below the DFE or DFE-AO shall be constructed of materials resistant to flood damage.
- (e) Manufactured homes and accessory structures shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with the Virginia Uniform Statewide Building Code.
- (f) New construction or substantial improvements shall be constructed using methods and practices that minimize flood damage.
- (g) Electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities, including ductwork, shall be:
 - (1) Elevated and installed at or above the DFE or DFE-AO; or
 - (2) Designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding or as allowed by the Virginia Uniform Statewide Building Code and ductwork shall be installed a minimum of one (1) foot above the BFE or flood depth.
- (h) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
- (i) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters.
- (j) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- (k) For any structure that is non-conforming, any alteration, repair, or improvement shall be undertaken only if said nonconformity is not furthered, extended, or replaced.
- (l) Prior to any proposed alteration or relocation of any channels or of any watercourse, stream, etc., within the City of Norfolk a permit shall be obtained from the U.S. Army Corps of Engineers, the Virginia Department of Environmental Quality, and the Virginia Marine Resources Commission.

Furthermore, notification of the proposal shall be given by the applicant to all affected adjacent jurisdictions, the Department of Conservation and Recreation, Division of Dam Safety and Floodplain Management, and the Federal Insurance and Mitigation Administration.

- (m) The flood carrying capacity within an altered or relocated portion of any watercourse shall be maintained.
- (n) Drainage shall be designed to guide water away from structures in a manner consistent with the applicable requirements of the city code.
- (o) An elevation certificate and, if applicable, a flood-proofing certificate shall be provided prior to any foundation inspection, final inspections, and the issuance of any certificates of occupancy, in order to assure compliance with these floodplain regulations.

11-3.11 *Specific standards for the Coastal High Hazard and Coastal Floodplain Districts.* In VE and Coastal A Zones, the following provisions shall apply:

- (a) All new construction and substantial improvements shall be elevated on pilings or columns such that:
 - (1) The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated at or above the DFE; and
 - (2) The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components, where the wind and water loading values are those that each have a one percent (1%) chance of being equaled or exceeded in any given year (one-percent annual chance).
- (b) A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the proposed design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of subsection (a), above using the Coastal Zone Design Certificate as provided by the City of Norfolk.
- (c) The zoning administrator or his designee shall obtain the elevation (in relation to mean sea level) of the bottom of the lowest horizontal structural member of the lowest floor (excluding pilings and columns) and shall maintain a record of such information.
- (d) All new construction shall be located landward of the reach of mean high tide.
- (e) For new construction and substantial improvements, the space below the lowest floor shall be maintained free of obstruction and the usage of breakaway walls at or below the DFE is prohibited.
- (f) The space below the lowest floor shall be used solely for parking of vehicles, building access, or storage. Such space shall not be partitioned into multiple rooms, temperature-controlled, or used for human habitation.
- (g) The use of fill for structural support of a building or structure is prohibited. When fill is proposed, appropriate engineering analyses shall be conducted to evaluate the impacts of the fill prior to issuance of any development permit.
- (h) The intentional alteration of a Coastal Primary Sand Dune, as defined by state law (Code of Virginia Title 28.2), which causes an increase in the likelihood of flood damage is prohibited.
- (i) All manufactured homes and recreational vehicles to be placed or substantially improved within VE and Coastal A Zones on the FIRM must meet the standards of subsections (a) through (h), above, and section 11-3.10.

11-3.12 *Specific standards in the Floodplain District.*

11-3.12.1 In AE and AH Zones, the following provisions shall apply:

- (a) *Residential construction.* New construction or substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor (including basement) elevated at or above the DFE or the elevation required by the Virginia Uniform Statewide Building Code, whichever is higher.

- (b) *Non-residential construction.* New construction or substantial improvement of any commercial, industrial, or non-residential building, other than an accessory building, shall have the lowest floor (including basement) elevated at or above the DFE or the elevation required by the Virginia Uniform Statewide Building Code, whichever is greater. Such non-residential buildings located in AE and AH Zones may be flood-proofed in lieu of being elevated, provided that all areas of the building components below the DFE are watertight, with walls substantially impermeable to the passage of water, and use structural components capable of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that all applicable engineering standards are satisfied.
- (c) *Buildings with enclosed spaces below DFE.* For all new construction or substantial improvements to an existing building, other than an accessory building, any enclosed space below the DFE shall:
- (1) Not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door), limited storage (standard exterior door or access panel) or entry to the building access (stairway or elevator).
 - (2) Be constructed entirely of flood resistant materials below the DFE.
 - (3) Include measures to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings either must be certified by a professional engineer or architect as meeting these hydrostatic standards or must meet the following minimum design criteria:
 - (i) Provide a minimum of two (2) openings on different sides of each enclosed area subject to flooding.
 - (ii) All openings must either:
 - (A) Have a net area not less than one (1) square inch for each one (1) square foot of enclosed area subject to flooding; or
 - (B) Be certified by a professional engineer or architect as providing adequate water flow capacity given the extent of the enclosed area subject to flooding.
 - (iii) If a building has more than one (1) enclosed area, each area must have openings to allow floodwaters to automatically enter and exit.
 - (iv) The bottom of all required openings shall be no higher than one (1) foot above the adjacent grade.
 - (v) Openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions.
 - (vi) A foundation enclosure made of flexible skirting is not considered an enclosure for purposes of these floodplain regulations, and, therefore, does not require openings. A foundation made of masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires the openings described above.
- (d) *Accessory buildings:* For any new construction or substantial improvement of any accessory building, the building shall be constructed entirely of flood resistant materials below the DFE and:
- (1) When no space below the BFE is enclosed, the lowest floor shall be elevated at or above the BFE.

- (2) When any space below the BFE is enclosed, the building shall only be used for parking of vehicles or limited storage, and shall comply with the requirements set forth in subsection (c)(3), above.
- (e) *Manufactured homes and recreational vehicles.* The following requirements shall apply to all manufactured homes and recreational vehicles located in any AE or AH Zone:
 - (1) Any newly placed or substantially improved manufactured home shall be elevated so that the lowest floor is at or above the DFE and shall meet all other general standards set forth in section 11-3.10 that apply to new construction.
 - (2) All recreational vehicles must either:
 - (i) Be removed after being located on a site for one hundred eighty (180) consecutive days and be fully licensed and ready for highway use. (A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect type utilities and security devices, and has no permanently attached additions); or
 - (ii) Meet all the requirements for manufactured homes set forth above.

11-3.12.2 In the AO zone, the following provisions shall apply:

- (a) *Residential construction.* New construction or substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor (including basement) elevated at or above the highest adjacent finished grade an amount not less than the DFE-AO or the elevation required by the Virginia Uniform Statewide Building Code, whichever is higher.
- (b) *Non-residential construction.* New construction or substantial improvement of any commercial, industrial, or non-residential building, other than an accessory building, shall have the lowest floor (including basement) elevated at or above the highest adjacent finished grade an amount not less than the DFE-AO or the elevation required by the Virginia Uniform Statewide Building Code, whichever is greater. Such non-residential buildings located in AO Zones may be flood-proofed in lieu of being elevated, provided that all areas of the building components below the DFE-AO are watertight, with walls substantially impermeable to the passage of water, and use structural components capable of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that all applicable engineering standards are satisfied.
- (c) *Buildings with enclosed spaces below DFE-AO.* For all new construction or substantial improvements to an existing building, other than an accessory building, any enclosed space below the DFE-AO shall:
 - (1) Not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door), limited storage (standard exterior door or access panel) or entry to the building access (stairway or elevator).
 - (2) Be constructed entirely of flood resistant materials below the DFE-AO.
 - (3) Include measures to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings either must be certified by a professional engineer or architect as meeting these hydrostatic standards or must meet the following minimum design criteria:
 - (i) Provide a minimum of two (2) openings on different sides of each enclosed area subject to flooding.
 - (ii) All openings must either:

- (A) Have a net area not less than one (1) square inch for each one (1) square foot of enclosed area subject to flooding; or
 - (B) Be certified by a professional engineer or architect as providing adequate water flow capacity given the extent of the enclosed area subject to flooding.
 - (iii) If a building has more than one (1) enclosed area, each area must have openings to allow floodwaters to automatically enter and exit.
 - (iv) The bottom of all required openings shall be no higher than one (1) foot above the adjacent grade.
 - (v) Openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions.
 - (vi) A foundation enclosure made of flexible skirting is not considered an enclosure for purposes of these floodplain regulations, and, therefore, does not require openings. A foundation made of masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires the openings described above.
 - (d) *Accessory buildings:* For any new construction or substantial improvement of any accessory building, the building shall be constructed entirely of flood resistant materials below the DFE-AO and:
 - (1) When no space below the flood depth is enclosed, the lowest floor shall be elevated at or above the flood depth.
 - (2) When any space below the flood depth is enclosed, the building shall only be used for parking of vehicles or limited storage, and shall comply with the requirements set forth in subsection (c)(3), above.
 - (e) *Manufactured homes and recreational vehicles.* The following requirements shall apply to all manufactured homes and recreational vehicles located in any AO Zone:
 - (1) Any newly placed or substantially improved manufactured home shall be elevated so that the lowest floor is at or above the DFE-AO and shall meet all other general standards set forth in section 11-3.10 that apply to new construction.
 - (2) All recreational vehicles must either:
 - (i) Be removed after being located on a site for one hundred eighty (180) consecutive days and be fully licensed and ready for highway use. (A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect type utilities and security devices, and has no permanently attached additions); or
 - (ii) Meet all the requirements for manufactured homes set forth above.
- 11-3.13 *Specific standards for other flood areas.* In X (0.2% annual chance of flood) Zones, the following requirements shall apply:
- (a) All new construction shall have the lowest floor, including basement, elevated or flood-proofed to one and one-half (1.5) feet above the highest finished grade immediately adjacent to the structure or one-half (1.5) above the 0.2% annual chance flood elevation as determined in the FIS.
 - (b) For purposes of applying the limitations set forth in Chapter 12, "Nonconformities," any structure lawfully constructed prior to January 1, 2014, which does not meet this requirement shall not be considered nonconforming with respect to these floodplain regulations.
- 11-3.14 *Standards for subdivision proposals.*
- (a) All subdivision proposals shall be consistent with the need to minimize flood damage;

- (b) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;
 - (c) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards; and
 - (d) Flood zone, BFE and flood depth data delineating the location of the flood zones on the property shall be provided for all subdivision proposals and other development proposals (including manufactured home parks and subdivisions).
- 11-3.15 *Existing structures in special flood hazard areas.* A structure lawfully constructed prior to January 1, 2014, but which is not in conformity with these floodplain regulations must comply with all of the following limitations that apply:
- (a) *Severe repetitive loss damage.* An existing structure that has suffered severe repetitive loss damage may be reconstructed as follows:
 - (1) If the reconstruction is limited to repairs only and does not involve the replacement or alteration of any structural element, then the reconstruction may be allowed provided that all requirements of the Virginia Uniform Statewide Building Code are met.
 - (2) If the reconstruction involves the replacement or alteration of any structural element, then the reconstruction shall only be permitted if, after the work is completed, the entire structure complies with these floodplain regulations.
 - (b) *Substantial damage or substantial improvement.* The reconstruction of an existing structure that has suffered substantial damage or for which a substantial improvement is proposed shall only be permitted if, after the work is completed, the entire structure complies with all requirements of the Virginia Uniform Statewide Building Code and this zoning ordinance, including these floodplain regulations and the applicable limitations of Chapter 12.
 - (c) *Improvement other than substantial improvement.* Any improvement, other than a substantial improvement, proposed to an existing structure may be permitted when the following requirements are met:
 - (1) The improvement proposed for the existing portion of the structure complies with all requirements of the Virginia Uniform Statewide Building Code; and
 - (2) Any proposed addition, conversion of a non-habitable area to a habitable area, or structural alteration shall only be permitted if the proposed work complies with all requirements of the Virginia Uniform Statewide Building Code and this zoning ordinance, including these floodplain regulations.
- 11-3.16 *Variances.* The board of zoning appeals has the power to authorize, upon application, variances from the regulations of this overlay district.
- (a) *Factors to be considered.* The board of zoning appeals shall consider the following factors, in addition to the requirements of Chapter 22, "Variances," prior to granting any variance from the regulations of this overlay district:
 - (1) The showing of good and sufficient cause.
 - (2) The danger to life and property due to increased flood heights or velocities caused by encroachments. No variance shall be granted for any proposed use, development, or activity that will cause any increase in the BFE or flood depth.
 - (3) The danger that materials may be swept on to other lands or downstream to the injury of others.
 - (4) The proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination, and unsanitary conditions.
 - (5) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners.

- (6) The importance of the services provided by the proposed facility to the community.
- (7) The requirements of the facility for a waterfront location.
- (8) The availability of alternative locations not subject to flooding for the proposed use.
- (9) The compatibility of the proposed use with existing development and development anticipated in the foreseeable future.
- (10) The relationship of the proposed use to the comprehensive plan and floodplain management program for the area.
- (11) The safety of access by ordinary and emergency vehicles to the property in time of flood.
- (12) The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters expected at the site.
- (13) The repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- (14) Such other factors which are relevant to the purposes of this overlay district.

The board of zoning appeals may refer any application and accompanying documentation pertaining to any request for a variance to any engineer or other qualified person or agency for technical assistance in evaluating the proposed project in relation to flood heights or velocities and the adequacy of the plans for flood protection and other related matters.

- (b) *Required findings.* Variances shall be issued only after the board of zoning appeals has determined that the variance will be the minimum required to provide relief and that the granting of such will not result in any of the following:
 - (1) Unacceptable or prohibited increases in flood heights;
 - (2) Additional threats to public safety;
 - (3) Extraordinary public expense;
 - (4) Any nuisance;
 - (5) Fraud or victimization of the public; or
 - (6) Conflict with local laws or ordinances.
- (c) *Notification.* The board of zoning appeals shall notify the applicant for a variance, in writing, that the issuance of a variance to construct a structure below the BFE or flood depth:
 - (1) Will increase the risks to life and property; and
 - (2) Will result in increased premium rates for flood insurance or the inability to obtain flood insurance through the NFIP.

A record shall be maintained of the above notification as well as all approved variances from the provisions of this overlay district, including justification for the issuance of each variance. Any variances that are issued shall be noted in the annual or biennial report submitted to the Federal Insurance Administrator.

11-3 - Floodplain/Coastal Hazard Overlay Districts FPCHO.

11-3.1 Purpose.

- (a) *Intent.* It is the intent of these regulations to permit the creation of Floodplain, Coastal Floodplain and Coastal High Hazard Districts in areas designated by the Federal Emergency Management Agency (FEMA) as "special flood hazard areas" and other areas identified as likely to benefit from floodplain management. Regulations within such districts are intended to prevent the loss of property and life, the creation of health and safety hazards, the disruption of commerce and governmental services, the extraordinary and unnecessary expenditure of public funds for flood protection and relief, and the impairment of the tax base, all of which adversely affect the public health, safety, and general welfare. These flood losses are attributed to the cumulative effect of obstructions located in areas of special flood hazard, and the occupancy of areas of special flood hazard by uses and structures vulnerable to flood damage or structures inadequately elevated, anchored or flood-proofed.
- (b) *Scope of regulations.* To accomplish these purposes, it is necessary to:
 - (1) Regulate uses, activities and development which, acting alone or in combination with other existing or future uses, activities and development, will cause unacceptable increases in flood heights, velocities and frequencies.
 - (2) Restrict or prohibit certain uses, activities and development from locating within certain areas of special flood hazards.
 - (3) Require all those uses, activities and development that do occur in areas of special flood hazards to be protected and/or flood-proofed against flooding, flood damage and wind damage.
 - (4) Protect individuals from buying lands and structures which are unsuited for certain purposes because of flood hazards.
 - (5) To ensure that adequate drainage is provided to reduce exposure to flood hazards.
- (c) *Findings.* The degree of flood protection sought by the provisions of this overlay district is considered reasonable for regulatory purposes and is based on acceptable engineering methods of study. Larger floods may occur. Flood heights may be increased by man-made or natural causes. This overlay district does not imply that districts outside the floodplain district or that land uses permitted within such district will be free from flooding or flood damages.

11-3.2 *Applicability.* The boundaries of the "special flood hazard areas" and "other flood areas" shall be designated by the "Flood Insurance Study" (FIS) issued by FEMA and shown on the city's Flood Insurance Rate Map (FIRM) dated ~~December 16, 2014~~ February 17, 2017, as amended. This map, as amended, is declared to be part of this ordinance and shall be kept on file in the offices of the building official and of the zoning administrator. The components of the "special flood hazard areas" and "other flood areas" shall be:

- (a) Coastal High Hazard District (VE).
- (b) Coastal Floodplain District (Coastal A).
- (c) Floodplain District (AE, ~~and~~ AH and AO).
- (d) Other Flood Areas (X ~~Shaded~~ 0.2% annual chance of flood).

11-3.3 Compliance and Liability.

- (a) *General.* No land shall hereafter be developed and no structure shall be located, relocated, constructed, reconstructed, enlarged, structurally altered or structurally improved nor any manufacture home placed on a lot or approved for utility service except in full compliance

with the terms and provisions of this section and any other applicable ordinances and regulations.

Any development which alters or relocates a watercourse shall not diminish the flood-carrying capacity within the altered or relocated portion of the watercourse. Prior notification of any proposed development which would alter or relocate a watercourse in the City of Norfolk shall be provided to all affected, adjacent municipalities, the Federal Insurance Administration, and the Virginia Department of Conservation and Recreation or other state coordinating agency designated to assist with the National Flood Insurance Program.

No new construction or development shall cause an increase in the elevation of the water level of a one-hundred-year flood. It shall be the responsibility of the design professional and developer to demonstrate that a proposed development will not increase flood levels.

- (b) *Administration.* For purposes of this overlay district, any powers, duties, and responsibilities of the zoning administrator that are described herein may also be exercised or discharged by any employee of the department of planning who is designated as the floodplain manager and is certified under the standards established by the Association of State Floodplain Managers.
- (c) *Recordkeeping.* Records of actions associated with administering this overlay district shall be kept on file and maintained by the zoning administrator or his designee. This shall specifically include maintaining copies of elevation certificates.
- (d) *No liability created.* This section shall not create liability on the part of the City of Norfolk or any officer or employee thereof for any flood damages that result from reliance on this overlay district or any administrative decision lawfully made there under.
- (e) *Notification.* No later than six (6) months after the receipt of information that may alter flood elevations, a community shall notify the Federal Emergency Management Agency of the changes by submitting technical or scientific data to allow FEMA to properly assess risk premium rates and floodplain management requirements.

11-3.4 *Abrogation and greater restrictions.* The special flood hazard areas and other flood areas as described above shall be overlays to the existing underlying districts as shown on the official zoning map, and as such, the provisions set forth in these floodplain regulations shall operate in conjunction with the underlying district provisions, as set forth in section 11-0. If there is any conflict between the provisions or requirements of this overlay district and those of any underlying district, the more restrictive provisions shall apply.

11-3.5 *Severability.* If any section, subsection, paragraph, sentence, clause, or phrase of this overlay district shall be declared invalid for any reason whatever, such decision shall not affect the remaining portions of this overlay district. The remaining portions shall remain in full force and effect; and for this purpose, the provisions of this overlay district are hereby declared to be severable.

11-3.6 *Penalty for violations.* Any person who fails to comply with any of the requirements or provisions of this article or directions of the zoning administrator or his designee shall be guilty of a misdemeanor and subject to the penalties therefore.

In addition to the above penalties, all other actions are hereby reserved, including an action in equity for the proper enforcement of this article. The imposition of a fine or penalty for any violation of, or noncompliance with, this article shall not excuse the violation or noncompliance or permit it to continue; and all such persons shall be required to correct or remedy such violations or noncompliances within a reasonable time. Flood insurance may be withheld from structures constructed in violation of this article.

11-3.7 *Definitions.* For the purpose of these floodplain regulations, the following definitions shall apply:

Base flood: The flood having a one percent chance of being equaled or exceeded in any given year.

Base flood elevation (BFE): The elevation in feet of the one percent (1%) annual chance flood level, as shown in the FIS and FIRM.

Basement: Any area of a building having its floor sub-grade (below ground level) on all sides.

Breakaway wall: A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

Coastal Floodplain District: Those areas identified as Coastal A Zones that have been delineated as being subject to wave heights between one and one-half (1.5) feet and three (3) feet and identified on the FIRM as areas of Limits of Moderate Wave Action (LiMWA).

Coastal High Hazard District: Those areas identified as VE Zones on the FIRM extending from offshore to the inland limit of the Coastal Primary Sand Dune, as defined by state law (Code of Virginia Title 28.2), and subject to wave heights of three (3) feet or more.

Damage, severe repetitive loss: Flood related damages to a structure sustained on two (2) separate occasions during a ten (10) year period for which the cost of repairs at the time of each flood event, on the average, equals or exceeds twenty-five percent (25%) of the market value of the structure before the most recent damage occurred.

Damage, substantial. Damage, of any origin, sustained by a structure for which the cost of restoring the structure to its condition before the damage occurred would equal or exceed fifty percent (50%) of the market value of the structure before the damage occurred.

Design flood elevation (DFE): ~~T~~The BFE plus the freeboard required by this ordinance in the VE, Coastal A, AE and AH zones.

Design flood elevation AO (DFE-AO): The flood depth plus the freeboard required by this ordinance in the AO zone.

Form:

Development: Any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

Elevation certificate: A document, prepared by a professional land surveyor, engineer, or architect, on a form approved by FEMA that verifies elevation and floodplain data of a structure relative to the ground level.

Encroachment: The advance or infringements of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.

Flood or flooding:

- (a) A general or temporary condition of partial or complete inundation of normally dry land areas from either of the following:
 - (1) The overflow of inland or tidal waters; or
 - (2) The unusual and rapid accumulation or runoff of surface waters from any source.
- (b) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water,

accompanied by a severe storm, or by an unanticipated force of nature such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in subparagraph (a)(1) of this definition.

- (c) Mudflows which are proximately caused by flooding as defined in subparagraph (a)(2) of this definition and are akin to a river of liquid and flowing mud on the surface of normally dry land areas, as when earth is carried by a current of water and disposed along the path of the current.

Flood depth: The depth in feet of the one percent (1%) annual chance flood level, as shown in the FIS and FIRM. Applicable only to the AO zone.

Form:

Floodplain or flood-prone area: Any land area susceptible to being inundated by water from any source

Floodplain District: Those areas designated as AE, ~~and~~ AH, ~~and~~ AO Zones on the FIRM for which a one percent (1%) annual chance of flood elevations have been identified.

Flood Insurance Rate Map (FIRM): The official map on which FEMA has delineated both the special flood hazard areas and other flood areas within the city. The FIRM may be available digitally.

Freeboard: The vertical distance between the BFE or depth number and the local minimum required lowest elevation in the AE, AH, AO, VE, and Coastal A Zones that provides additional protection for the unknown or unquantified factors that could contribute to greater flood heights.

Historic structure: Any structure that is:

- (a) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (b) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; or
- (c) Individually listed on the Virginia Landmarks Register.
- (d) Designated individually as a landmark or as a contributing structure within a locally designated historic district, to the extent such designation is permitted under and done in accordance with provisions of Chapter 9 or this ordinance.

Lowest floor: The lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or limited storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of Federal Code 44 CFR § 60.3.

Manufactured home: A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term manufactured home also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than one hundred eighty (180) consecutive days.

Manufactured home park or subdivision: A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

New construction: Structures for which the "start of construction" commenced on or after August 1, 1979.

Other flood areas: Those areas identified as X (~~Shaded~~) on the FIRM for which there is a one-fifth percent (0.2%) annual chance of flooding.

Recreational vehicle: A vehicle which is:

- (a) Built on a single chassis;
- (b) Measures four hundred (400) square feet or less when measured at the largest horizontal projection;
- (c) Designed to be self-propelled or permanently towed by a light duty truck; and
- (d) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational camping, travel, or seasonal use.

Repetitive loss damage: See "Damage, repetitive loss."

Shallow flooding area: A special flood hazard area with base flood depths from one (1) to three (3) feet where a clearly defined channel does not exist. Such flooding is characterized by ponding or sheet flow.

Special flood hazard areas: The land in the floodplain subject to a one percent (1%) or greater annual chance of being flooded. These are designated as AE, AH, AO, VE, and Coastal A on the FIRM.

Start of construction: The date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, substantial improvement or other improvement was within one hundred eighty (180) days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation on the property of accessory structures, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of the construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Substantial damage: See "Damage, substantial."

Substantial improvement: All reconstructions, rehabilitations, additions, or other improvements of a structure the cost of which equals or exceeds fifty percent (50%) of the market value of the structure before the "start of construction" of the improvement.

Notwithstanding the above, the term does not include any of the following:

- (a) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions;
- (b) Any alteration of a "historic structure" provided that the alteration will not preclude the structure's continued designation as a "historic structure"; or
- (c) Any improvements associated solely with elevating a structure above the DFE or DFE-AO.

Watercourse: A lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

11-3.8 *District boundary changes.* The delineation of any of the special flood hazard areas and other flood hazard areas may be revised by the City of Norfolk where natural or man-made changes have occurred and/or where more detailed studies have been conducted or undertaken by the U.S. Army Corps of Engineers or other qualified agency, or an individual documents the need for such change. However, prior to any such change, approval must be obtained from FEMA.

11-3.9 *Permit and application requirements.* All uses, activities, and development occurring within any floodplain district shall be undertaken only upon the issuance of a permit. Such development shall be undertaken only in strict compliance with the provisions of this ordinance, the Virginia Uniform Statewide Building Code, and all other applicable codes and ordinances. Prior to the issuance of any such permit, the zoning administrator or his designee shall review permits to assure sites are reasonably safe from flooding and require all applicants to demonstrate compliance with all applicable state and federal laws. It shall be the responsibility of a property owner to demonstrate that work proposed on existing structures does or does not constitute substantial improvement or repair of substantial damage. Under no circumstances shall any use, activity, and/or development adversely affect the capacity of the channels or floodways of any watercourse, drainage ditch, or any other drainage facility or system.

All applications for development within any special flood hazard area and all building permits issued for the floodplain shall incorporate the following information.

- (a) For any rehabilitation, installation of new electrical or mechanical systems, or any structural repair with an estimated cost that is less than fifty percent (50%) of the market value of the structure, a current elevation certificate sealed by a licensed design professional is required.
- (b) For any addition, any conversion of any non-habitable space to habitable space, or the construction or installation of a new accessory structure that requires a building permit:
 - (1) A current elevation certificate sealed by a licensed design professional, and
 - (2) A physical survey, performed after the effective date of the FIRM that,
 - (i) Accurately depicts current improvements on the property,
 - (ii) Provides a flood zone determination and the BFE or flood depth at the site, and
 - (iii) Delineates the location of the flood zones on the property.
- (c) For new construction and any substantial improvement of a principal structure:
 - (1) A proposed site plan sealed by a design professional that provides:
 - (i) Topographic data;
 - (ii) Proposed grades, grading and stormwater management;
 - (iii) All proposed structures and improvements;
 - (iv) Proposed finished floor elevations of structures in AE, and AH, and AO zones;
 - (v) The elevation of the bottom of the lowest horizontal structural member of the lowest floor in VE and Coastal A zones;
 - (vi) Flood zone determination and BFE or flood depth with the FIRM reference, and
 - (vii) All other information as required by any applicable provision of Chapter 26, "Site Plan Review" or Section 11-2, "Chesapeake Bay Preservation Area Overlay District."
 - (2) An elevation certificate based on the proposed development showing compliance with these floodplain regulations.

- (3) For non-residential structures proposed to be flood-proofed, a flood-proofing certificate based on the proposed development showing compliance with these floodplain regulations.
 - (d) Any additional information deemed by the zoning administrator to be necessary to perform the required review.
- 11-3.10 *General Standards.* In the Floodplain, Coastal Floodplain and Coastal High Hazard districts the following provisions shall apply:
- (a) The Freeboard shall be three (3) feet.
 - (b) Any new construction or substantial improvement to principal residential structures shall be a set back a minimum of twenty (20) feet from mean high water.
 - (c) For residential construction, the lowest floor shall not be below grade on all sides.
 - (d) New construction and substantial improvements shall be built in accordance with the Virginia Uniform Statewide Building Code, and anchored to prevent flotation, collapse or lateral movement of the structure and all portions at or below the DFE or DFE-AQ shall be constructed of materials resistant to flood damage.
 - (e) Manufactured homes and accessory structures shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with the Virginia Uniform Statewide Building Code.
 - (f) New construction or substantial improvements shall be constructed using methods and practices that minimize flood damage.
 - (g) Electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities, including ductwork, shall be:
 - (1) Elevated and installed at or above the DFE or DFE-AQ; or
 - (2) Designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding or as allowed by the Virginia Uniform Statewide Building Code and ductwork shall be installed a minimum of one (1) foot above the BFE or flood depth.
 - (h) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
 - (i) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters.
 - (j) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
 - (k) For any structure that is non-conforming, any alteration, repair, or improvement shall be undertaken only if said nonconformity is not furthered, extended, or replaced.
 - (l) Prior to any proposed alteration or relocation of any channels or of any watercourse, stream, etc., within the City of Norfolk a permit shall be obtained from the U.S. Army Corps of Engineers, the Virginia Department of Environmental Quality, and the Virginia Marine Resources Commission.

Furthermore, notification of the proposal shall be given by the applicant to all affected adjacent jurisdictions, the Department of Conservation and Recreation, Division of Dam Safety and Floodplain Management, and the Federal Insurance and Mitigation Administration.
 - (m) The flood carrying capacity within an altered or relocated portion of any watercourse shall be maintained.

- (n) Drainage shall be designed to guide water away from structures in a manner consistent with the applicable requirements of the city code.
- (o) An elevation certificate and, if applicable, a flood-proofing certificate shall be provided prior to any foundation inspection, final inspections, and the issuance of any certificates of occupancy, in order to assure compliance with these floodplain regulations.

11-3.11 *Specific standards for the Coastal High Hazard and Coastal Floodplain Districts.* In VE and Coastal A Zones, the following provisions shall apply:

- (a) All new construction and substantial improvements shall be elevated on pilings or columns such that:
 - (1) The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated at or above the DFE; and
 - (2) The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components, where the wind and water loading values are those that each have a one percent (1%) chance of being equaled or exceeded in any given year (one-percent annual chance).
- (b) A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the proposed design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of subsection (a), above using the Coastal Zone Design Certificate as provided by the City of Norfolk.
- (c) The zoning administrator or his designee shall obtain the elevation (in relation to mean sea level) of the bottom of the lowest horizontal structural member of the lowest floor (excluding pilings and columns) and shall maintain a record of such information.
- (d) All new construction shall be located landward of the reach of mean high tide.
- (e) For new construction and substantial improvements, the space below the lowest floor shall be maintained free of obstruction and the usage of breakaway walls at or below the DFE is prohibited.
- (f) The space below the lowest floor shall be used solely for parking of vehicles, building access, or storage. Such space shall not be partitioned into multiple rooms, temperature-controlled, or used for human habitation.
- (g) The use of fill for structural support of a building or structure is prohibited. When fill is proposed, appropriate engineering analyses shall be conducted to evaluate the impacts of the fill prior to issuance of any development permit.
- (h) The intentional alteration of a Coastal Primary Sand Dune, as defined by state law (Code of Virginia Title 28.2), which causes an increase in the likelihood of flood damage is prohibited.
- (i) All manufactured homes and recreational vehicles to be placed or substantially improved within VE and Coastal A Zones on the FIRM must meet the standards of subsections (a) through (h), above, and section 11-3.10.

11-3.12 *Specific standards in the Floodplain District.*

11-3.12.1 In AE and AH Zones, the following provisions shall apply:

- (a) *Residential construction.* New construction or substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor (including basement) elevated at or above the DFE or the elevation required by the Virginia Uniform Statewide Building Code, whichever is higher.
- (b) *Non-residential construction.* New construction or substantial improvement of any commercial, industrial, or non-residential building, other than an accessory building, shall

have the lowest floor (including basement) elevated at or above the DFE or the elevation required by the Virginia Uniform Statewide Building Code, whichever is greater. Such non-residential buildings located in AE and AH Zones may be flood-proofed in lieu of being elevated, provided that all areas of the building components below the DFE are watertight, with walls substantially impermeable to the passage of water, and use structural components capable of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that all applicable engineering standards are satisfied.

- (c) *Buildings with enclosed spaces below DFE.* For all new construction or substantial improvements to an existing building, other than an accessory building, any enclosed space below the DFE shall:
- (1) Not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door), limited storage (standard exterior door or access panel) or entry to the building access (stairway or elevator).
 - (2) Be constructed entirely of flood resistant materials below the DFE.
 - (3) Include measures to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings either must be certified by a professional engineer or architect as meeting these hydrostatic standards or must meet the following minimum design criteria:
 - (i) Provide a minimum of two (2) openings on different sides of each enclosed area subject to flooding.
 - (ii) All openings must either:
 - (A) Have a net area not less than one (1) square inch for each one (1) square foot of enclosed area subject to flooding; or
 - (B) Be certified by a professional engineer or architect as providing adequate water flow capacity given the extent of the enclosed area subject to flooding.
 - (iii) If a building has more than one (1) enclosed area, each area must have openings to allow floodwaters to automatically enter and exit.
 - (iv) The bottom of all required openings shall be no higher than one (1) foot above the adjacent grade.
 - (v) Openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions.
 - (vi) A foundation enclosure made of flexible skirting is not considered an enclosure for purposes of these floodplain regulations, and, therefore, does not require openings. A foundation made of masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires the openings described above.
- (d) *Accessory buildings:* For any new construction or substantial improvement of any accessory building, the building shall be constructed entirely of flood resistant materials below the DFE and:
- (1) When no space below the BFE is enclosed, the lowest floor shall be elevated at or above the BFE.
 - (2) When any space below the BFE is enclosed, the building shall only be used for parking of vehicles or limited storage, and shall comply with the requirements set forth in subsection (c)(3), above.

(e) *Manufactured homes and recreational vehicles.* The following requirements shall apply to all manufactured homes and recreational vehicles located in any AE or AH Zone:

- (1) Any newly placed or substantially improved manufactured home shall be elevated so that the lowest floor is at or above the DFE and shall meet all other general standards set forth in section 11-3.10 that apply to new construction.
- (2) All recreational vehicles must either:
 - (i) Be removed after being located on a site for one hundred eighty (180) consecutive days and be fully licensed and ready for highway use. (A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect type utilities and security devices, and has no permanently attached additions); or
 - (ii) Meet all the requirements for manufactured homes set forth above.

11-3.12.2 In the AO zone, the following provisions shall apply:

Form:

- (a) *Residential construction.* New construction or substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor (including basement) elevated at or above the highest adjacent finished grade an amount not less than the DFE-AO or the elevation required by the Virginia Uniform Statewide Building Code, whichever is higher.
- (b) *Non-residential construction.* New construction or substantial improvement of any commercial, industrial, or non-residential building, other than an accessory building, shall have the lowest floor (including basement) elevated at or above the highest adjacent finished grade an amount not less than the DFE-AO or the elevation required by the Virginia Uniform Statewide Building Code, whichever is greater. Such non-residential buildings located in AO Zones may be flood-proofed in lieu of being elevated, provided that all areas of the building components below the DFE-AO are watertight, with walls substantially impermeable to the passage of water, and use structural components capable of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that all applicable engineering standards are satisfied.
- (c) *Buildings with enclosed spaces below DFE-AO.* For all new construction or substantial improvements to an existing building, other than an accessory building, any enclosed space below the DFE-AO shall:
 - (1) Not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door), limited storage (standard exterior door or access panel) or entry to the building access (stairway or elevator).
 - (2) Be constructed entirely of flood resistant materials below the DFE-AO.
 - (3) Include measures to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings either must be certified by a professional engineer or architect as meeting these hydrostatic standards or must meet the following minimum design criteria:
 - (i) Provide a minimum of two (2) openings on different sides of each enclosed area subject to flooding.
 - (ii) All openings must either:
 - (A) Have a net area not less than one (1) square inch for each one (1) square foot of enclosed area subject to flooding; or
 - (B) Be certified by a professional engineer or architect as providing adequate water flow capacity given the extent of the enclosed area subject to flooding.

- (iii) If a building has more than one (1) enclosed area, each area must have openings to allow floodwaters to automatically enter and exit.
- (iv) The bottom of all required openings shall be no higher than one (1) foot above the adjacent grade.
- (v) Openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions.
- (vi) A foundation enclosure made of flexible skirting is not considered an enclosure for purposes of these floodplain regulations, and, therefore, does not require openings. A foundation made of masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires the openings described above.
- (d) Accessory buildings: For any new construction or substantial improvement of any accessory building, the building shall be constructed entirely of flood resistant materials below the DFE-AO and:
 - (1) When no space below the flood depth is enclosed, the lowest floor shall be elevated at or above the flood depth.
 - (2) When any space below the flood depth is enclosed, the building shall only be used for parking of vehicles or limited storage, and shall comply with the requirements set forth in subsection (c)(3), above.
- (e) Manufactured homes and recreational vehicles. The following requirements shall apply to all manufactured homes and recreational vehicles located in any AO Zone:
 - (1) Any newly placed or substantially improved manufactured home shall be elevated so that the lowest floor is at or above the DFE-AO and shall meet all other general standards set forth in section 11-3.10 that apply to new construction.
 - (2) All recreational vehicles must either:
 - (i) Be removed after being located on a site for one hundred eighty (180) consecutive days and be fully licensed and ready for highway use. (A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect type utilities and security devices, and has no permanently attached additions); or
 - (ii) Meet all the requirements for manufactured homes set forth above.

Form:

11-3.13 *Specific standards for other flood areas.* In X (~~Shaded~~ 0.2% annual chance of flood) Zones, the following requirements shall apply:

- (a) All new construction shall have the lowest floor, including basement, elevated or flood-proofed to one and one-half (1.5) feet above the highest finished grade immediately adjacent to the structure or one-half (1.5) above the 0.2% annual chance flood elevation as determined in the FIS.
- (b) For purposes of applying the limitations set forth in Chapter 12, "Nonconformities," any structure lawfully constructed prior to January 1, 2014, which does not meet this requirement shall not be considered nonconforming with respect to these floodplain regulations.

11-3.14 *Standards for subdivision proposals.*

- (a) All subdivision proposals shall be consistent with the need to minimize flood damage;
- (b) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;

- (c) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards; and
 - (d) Flood zone ~~and~~, BFE and flood depth data delineating the location of the flood zones on the property shall be provided for all subdivision proposals and other development proposals (including manufactured home parks and subdivisions).
- 11-3.15 *Existing structures in special flood hazard areas.* A structure lawfully constructed prior to January 1, 2014, but which is not in conformity with these floodplain regulations must comply with all of the following limitations that apply:
- (a) *Severe repetitive loss damage.* An existing structure that has suffered severe repetitive loss damage may be reconstructed as follows:
 - (1) If the reconstruction is limited to repairs only and does not involve the replacement or alteration of any structural element, then the reconstruction may be allowed provided that all requirements of the Virginia Uniform Statewide Building Code are met.
 - (2) If the reconstruction involves the replacement or alteration of any structural element, then the reconstruction shall only be permitted if, after the work is completed, the entire structure complies with these floodplain regulations.
 - (b) *Substantial damage or substantial improvement.* The reconstruction of an existing structure that has suffered substantial damage or for which a substantial improvement is proposed shall only be permitted if, after the work is completed, the entire structure complies with all requirements of the Virginia Uniform Statewide Building Code and this zoning ordinance, including these floodplain regulations and the applicable limitations of Chapter 12.
 - (c) *Improvement other than substantial improvement.* Any improvement, other than a substantial improvement, proposed to an existing structure may be permitted when the following requirements are met:
 - (1) The improvement proposed for the existing portion of the structure complies with all requirements of the Virginia Uniform Statewide Building Code; and
 - (2) Any proposed addition, conversion of a non-habitable area to a habitable area, or structural alteration shall only be permitted if the proposed work complies with all requirements of the Virginia Uniform Statewide Building Code and this zoning ordinance, including these floodplain regulations.
- 11-3.16 *Variances.* The board of zoning appeals has the power to authorize, upon application, variances from the regulations of this overlay district.
- (a) *Factors to be considered.* The board of zoning appeals shall consider the following factors, in addition to the requirements of Chapter 22, "Variances," prior to granting any variance from the regulations of this overlay district:
 - (1) The showing of good and sufficient cause.
 - (2) The danger to life and property due to increased flood heights or velocities caused by encroachments. No variance shall be granted for any proposed use, development, or activity that will cause any increase in the BFE or flood depth.
 - (3) The danger that materials may be swept on to other lands or downstream to the injury of others.
 - (4) The proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination, and unsanitary conditions.
 - (5) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners.
 - (6) The importance of the services provided by the proposed facility to the community.

- (7) The requirements of the facility for a waterfront location.
- (8) The availability of alternative locations not subject to flooding for the proposed use.
- (9) The compatibility of the proposed use with existing development and development anticipated in the foreseeable future.
- (10) The relationship of the proposed use to the comprehensive plan and floodplain management program for the area.
- (11) The safety of access by ordinary and emergency vehicles to the property in time of flood.
- (12) The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters expected at the site.
- (13) The repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- (14) Such other factors which are relevant to the purposes of this overlay district.

The board of zoning appeals may refer any application and accompanying documentation pertaining to any request for a variance to any engineer or other qualified person or agency for technical assistance in evaluating the proposed project in relation to flood heights or velocities and the adequacy of the plans for flood protection and other related matters.

- (b) *Required findings.* Variances shall be issued only after the board of zoning appeals has determined that the variance will be the minimum required to provide relief and that the granting of such will not result in any of the following:
 - (1) Unacceptable or prohibited increases in flood heights;
 - (2) Additional threats to public safety;
 - (3) Extraordinary public expense;
 - (4) Any nuisance;
 - (5) Fraud or victimization of the public; or
 - (6) Conflict with local laws or ordinances.
- (c) *Notification.* The board of zoning appeals shall notify the applicant for a variance, in writing, that the issuance of a variance to construct a structure below the BFE or flood depth:
 - (1) Will increase the risks to life and property; and
 - (2) Will result in increased premium rates for flood insurance or the inability to obtain flood insurance through the NFIP.

A record shall be maintained of the above notification as well as all approved variances from the provisions of this overlay district, including justification for the issuance of each variance. Any variances that are issued shall be noted in the annual or biennial report submitted to the Federal Insurance Administrator.

(Ord. No. 37,048, § 1, 11-10-92; Ord. No. 40,665, § 2(Exh. B), 4-9-02; Ord. No. 42,322, § 1(Exhs. A—C), 6-27-06; Ord. No. 43,530, § 1(Exh. A), 8-18-09; [Ord. No. 45,305, § 2\(Exh. B\), 11-26-13](#); [Ord. No. 45,767, § 1\(Exh. A\), 11-25-14](#).)



FEMA

NOV 04 2016

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Kenneth Cooper Alexander
Mayor, City of Norfolk
810 Union Street, Suite 1001
Norfolk, Virginia 23510

Dear Mayor Alexander:

I commend you for the efforts that have been put forth in implementing the floodplain management measures for the City of Norfolk, Virginia, to participate in the National Flood Insurance Program (NFIP). As you implement these measures, I want to emphasize the following:

- Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM) have been completed for your community;
- the FIS and FIRM will become effective on February 17, 2017; and
- by the FIS and FIRM effective date, the Department of Homeland Security's Federal Emergency Management Agency (FEMA) Regional Office is required to approve the legally enforceable floodplain management measures your community adopts in accordance with Title 44 Code of Federal Regulations Section 60.3(e).

As noted in FEMA's letter dated August 17, 2016, no significant changes have been made to the flood hazard data on the Preliminary and/or revised Preliminary copies of the FIRM for City of Norfolk. Therefore, the City of Norfolk should use the Preliminary and/or revised Preliminary copies of the FIRM as the basis for adopting the required floodplain management measures. Final printed copies of the FIRM for the City of Norfolk will be sent to you within the next few months.

If you encounter difficulties in enacting the measures, I recommend you contact the Virginia Department of Conservation and Recreation, Division of Dam Safety and Floodplain Management. You may contact Charley Banks, CFM, the NFIP State Coordinator, by telephone at (804) 371-6135, in writing at 600 East Main Street, 24th Floor, Richmond, Virginia 23219, or by electronic mail at charley.banks@dcr.virginia.gov.

The FEMA Regional staff in Philadelphia, Pennsylvania, is also available to provide technical assistance and guidance in the development of floodplain management measures. The adoption of compliant floodplain management measures will provide protection for the City of Norfolk and will ensure its participation in the NFIP. The Regional Office may be contacted by telephone at (215) 931-5500 or in writing. Please send your written inquiries to the Director, Federal Insurance

The Honorable Kenneth Cooper Alexander

NOV 04 2016

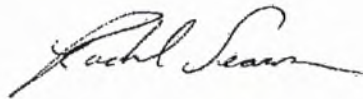
Page 2

and Mitigation Division, FEMA Region III, at 615 Chestnut Street, One Independence Mall, Sixth Floor, Philadelphia, Pennsylvania 19106-4404.

You may have already contacted the NFIP State Coordinator and/or the FEMA Regional Office, and may be in the final adoption process or recently adopted the appropriate measures. However, in the event your community has not adopted the appropriate measures, this letter is FEMA's official notification that you only have until February 17, 2017, to adopt and/or submit a floodplain management ordinance that meets or exceeds the minimum NFIP requirements, and request approval from the FEMA Regional Office by the effective date. Your community's adopted measures will be reviewed upon receipt and the FEMA Regional Office will notify you when the measures are approved.

I appreciate your cooperation to ensure that your community's floodplain management measures are approved by the FEMA Regional Office by February 17, 2017. Your compliance with these mandatory program requirements will enable your community to avoid suspension from the NFIP.

Sincerely,



Rachel Sears, Director
Floodplain Management Division
Mitigation Directorate | FEMA

cc: MaryAnn Tierney, Regional Administrator, FEMA Region III
Charley Banks, CFM, NFIP State Coordinator, Virginia Department of Conservation
and Recreation, Division of Dam Safety and Floodplain Management
Robert Tajan, AICP, CFM, Floodplain Administrator, City of Norfolk